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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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12/12/2003

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EXAMINER

HUNG, YUBIN

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

05/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/734,480

Applicant(s)

II, YASUHIRO

Examiner

Yubin Hung

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/12/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Per P. 5, paragraphs 13-18, Figures 1-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 recites the limitation "the thumbnail image of the data file" in line 4.

There is insufficient antecedent basis for this limitation in the claim. [Note: while lines 1-2 recite "the thumbnail image of an original image of a data file," the data file may contain data other than the "original image."] Claim 2 recites the same limitation in line 7 and is similarly rejected. Claims 3 and 4 inherit the problem from claim 2 and are similarly rejected. [Note: for examination purpose "the thumbnail image of the data file" will be interpreted as "the thumbnail image of the original image of the data file" as per lines 1 and 2 of claims 1 and 2, respectively.]

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 4-6, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deshpande et al. (US 7,206,804), and further in view of Blumberg (US 6,708,309) and Iwata et al. (US 7,127,673).

7. Regarding claim 2, Deshpande discloses a server computer [Fig. 1, ref. 2] causing a thumbnail image to be displayed on a display unit of a client computer [Fig. 1,

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refs. "client," 14 (display) in accordance with an instruction therefrom [Col. 4, lines 17-26; Fig. 8 and Col. 12, lines 11-21 (displayed thumbnail)] connected to the server via a network [Fig. 1, "network"]. Deshpande further discloses

- a thumbnail image storage unit to store in the storage unit a first compressed code relating to an image for displaying the thumbnail image of the data file,
[Col. 11, lines 4-7 (storage unit; note that the JPEG 2000 image file is the first compressed code; note further that, while not expressly mentioned, the server necessarily has to have a storage unit in order to store the files). Col. 4, lines 17-27 (related thumbnail image). Note that the lowest-resolution version of the JPEG2000 image is a version of the thumbnail image; see also Col. 5, lines 21-28]

the first compressed code being generated by dividing the image into a plurality of tiles and performing discrete wavelet transform and hierarchical encoding on pixel values of the image tile by tile [Fig. 3; Col. 7, lines 24-52, especially lines 24-26 (dividing into tiles and coding tile by tile) and lines 47-49 (wavelet transform and hierarchical coding)]

- a thumbnail image extraction unit to extract a second compressed code according to the resolution acquired by the thumbnail image setting acquisition unit from the first compressed code stored in the storage unit
[Col. 4, lines 17-26 and Col. 6, lines 6-9. Note that while not recited, to extract and transmit the (second) compressed code stream corresponding to a thumbnail image of the requested resolution the server necessarily has to have an extraction unit]
- a thumbnail image transmission unit to transmit the second compressed code extracted by the thumbnail image extraction unit to the client computer
[Col. 4, lines 17-26 and Col. 6, lines 6-9. Note that while not recited, to extract and transmit the (second) compressed code stream corresponding to a thumbnail image of the requested resolution the server necessarily has to have a transmission unit]

While Deshpande further discloses selecting thumbnail resolution to ensure that it has sufficient detail, Deshpande does not expressly disclose the following

- a thumbnail image setting acquisition unit to acquire from the client computer a resolution of the thumbnail image, the resolution being set in accordance with a format type of the data file

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which is taught by Blumberg and Iwata, see below.

Blumberg discloses acquiring from the client computer a resolution of the desired image. [Fig. 1, refs. 110 (server), 120 (client) & 160 (request from user); Col. 10, lines 29-64, especially lines 49-50 and 61-64 (note that the user is on the client side and that the resolution is specified as WID and HEI). Note further that while not recited, to generate an image with the requested specifications, including the resolution (Col. 10, lines 61-64), the server necessarily has to have a (setting acquisition) unit to obtain the requested resolution, among other information.]

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Deshpande with the teaching of Blumberg as recited above. The motivation would have been for the server to be able to satisfy the request of the client, as Blumberg indicates in Col. 10, lines 61-64.

Furthermore, Iwata discloses setting image resolution (as reflected by its size) according to the format type of the data it represents [Fig. 10, refs. S25-S28 and Col. 10, lines 1-20. Note that format types are indicated by font types].

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combined invention of Deshpande and Blumberg with the teaching of Iwata by setting thumbnail resolution according to its format type. The motivation would

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have been to ensure that the thumbnail is readable on the screen, as Iwata indicates in Col. 10, lines 16-20.

Deshpande, Blumberg and Iwata are combinable because they all have aspects that are from the same field of endeavor of image display.

Therefore it would have been obvious to combine Blumberg and Iwata with Deshpande to obtain the invention as specified in claim 2.

8. Claim 1 is similarly analyzed and rejected per the analysis of claim 2 since a system capable of executing the method of claim 1 has been taught.

9. Regarding claim 4, Official Notice is taken that there exists monochromatic types of images (i.e., images, such as bi-level or gray-scale images, with only a luminance component) and for such types of images the second compressed code can only be extracted from the luminance component (which is the only component) of the first compressed code.

10. Regarding claim 5, per the analysis of claim 2 the combined invention of Deshpande, Blumberg and Iwata discloses a client computer displaying a thumbnail image of an original image of data file stored in a storage unit of a server computer on a display unit, the server computer being connected to the client computer via a network.

The combined invention further discloses: (in the client computer)

- a thumbnail image setting unit to set a resolution of the thumbnail image in accordance with a format type of the data file
[Deshpande: Col. 4, lines 17-26 and Col. 6, lines 6-9. Note that while not recited, to request thumbnails of the desired resolution (the lowest or otherwise) the client necessarily has to have a setting unit. Note further that Iwata teaches format type-dependent resolution, per the analysis of claim 2]
- a thumbnail image setting transmission unit to transmit the resolution set by the thumbnail image setting unit to the server computer
[Deshpande: Col. 4, lines 17-26 and Col. 6, lines 6-9. Note that while not recited, to send the request for a thumbnail image of the desired resolution the client necessarily has to have a transmission unit]

11. Regarding claim 6, the combined invention further discloses

- wherein the server computer is a server computer as set forth in claim 2
[Per the analyses of claims 2 and 5]

12. Claims 8, 10 and 11 are rejected per the analysis of their respective system claims 2, 5 and 7 since systems capable of executing the corresponding methods implemented by the programs of claims 8-12 have been taught. Note further that the server [Deshpande: Fig. 1, refs. 2 (server), 4 (hosted web pages); Col. 3, lines 31-44] clearly has a computer-readable medium.

13. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deshpande et al. (US 7,206,804), Blumberg (US 6,708,309) and Iwata et al. (US 7,127,673) as applied to claims 1, 2, 4-6, 8, 10 and 11 above, and further in view of Koide (JP 2001-128109).

14. Regarding claim 3, the combined invention of Deshpande, Blumberg and Iwata discloses all limitations of its parent, claim 2. Per the analysis of claim 2, the combined invention of Deshpande, Blumberg and Iwata further discloses an extraction unit that extracts the second compressed code according to the resolution set in the thumbnail image setting acquisition unit from part of the first compressed code stored in the storage unit.

The combined invention of Deshpande, Blumberg and Iwata does not expressly disclose that when a region of interest (ROI) is specified in the original image of the data file, the second compressed code is extracted from the part of the first compressed code relating to a tile of the ROI. However, Koide teaches using the ROI for a thumbnail image (extracted as the second compressed code, per the analysis of claim 2) [Abstract; Fig. 2, refs. S108 (specify ROI), S109 & S110 (extract/compressed thumbnail); Fig. 3; and paragraphs 009 & 026-030 of the English translation]. Note further that to be successful the ROI necessarily has to be extracted from the part of the compressed code relating to a tile of the ROI (since otherwise a wrong portion will be extracted).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combined invention of Deshpande, Blumberg and Iwata with the teaching of Koide as recited above. The motivation would have been to generate a thumbnail

image with which the content of the original image is easily confirmed, as Koide indicates in lines 1-3 of the English abstract.

Therefore it would have been obvious to combine Koide with Deshpande, Blumberg and Iwata to obtain the invention as specified in claim 3.

15. Claim 9, being a medium claim of claim 3, is similarly analyzed and rejected.
(See also the rejection of claim 8.)

16. Claims 7 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deshpande et al. (US 7,206,804), Blumberg (US 6,708,309) and Iwata et al. (US 7,127,673) as applied to claims 1, 2, 4-6, 8, 10 and 11 above, and further in view of Moroo et al. (US 2002/0057281).

17. Regarding claim 7, the combined invention of Deshpande, Blumberg and Iwata discloses all limitations of its parent, claim 5. Deshpande further discloses

- wherein in a case of receiving from the server computer a first compressed code according to the resolution set by the thumbnail image setting unit extracted from part of a second compressed code stored in the storage unit, the thumbnail image is displayed in an enlarged size [Fig. 9, ref. 114 and Col. 12, lines 22- 29 (thumbnail enlarged and displayed). Note that the same analysis of claim 2 discloses that the thumbnail as recited is received from the server]
- the part of the second compressed code relating to a tile of an ROI [Per the analysis of claim 3, which is applicable here. Note that the first (respectively, second) compressed code of this claim corresponds to the second (respectively, first) compressed code of claim 3]

In addition, Moroo discloses enlarging images to be displayed (such as thumbnail images of the same format type) to a single size (namely the screen size). [P. 5, paragraph 83, lines 1- 5].

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combined invention of Deshpande, Blumberg and Iwata with the teaching of Moroo as recited above. The motivation would have been to prevent wasteful use of a display screen and display the thumbnail image in an easy-to-see condition, as Moroo indicates in P. 1, paragraph 13, lines 6-10.

Therefore it would have been obvious to combine Moroo with Deshpande, Blumberg and Iwata to obtain the invention as specified in claim 7.

18. Claim 12, being a medium claim of claim 7, is similarly analyzed and rejected. (See also the rejection of claim 8.)

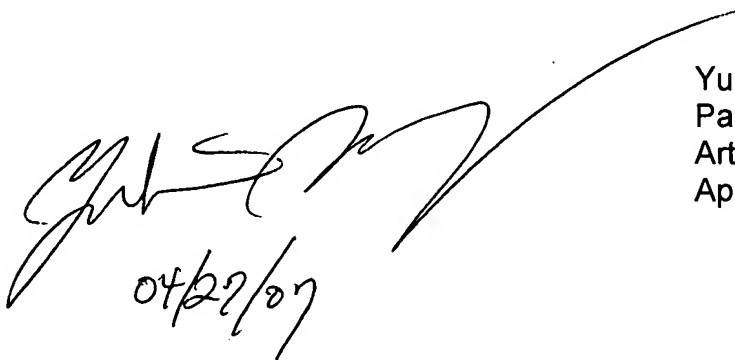
Conclusion and Contact Information

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Tian (US 2002/0146123) – discloses applying JPEG 2000 to various types of data, including bi-level and gray-level images of natural scenes or text, etc. [P. 2, paragraph 21]
- Bonadio (US 7,075,550) – discloses setting the size and shape of an icon representing a data file by its size and type, respectively [Figs. 11 & 12]
- Chui (US 6,549,674) – discloses a client specifying ROI tiles and resolution to obtain data from JPEG 2000-encoded image tiles in a server [Col. 13, lines 33-41]
- Cohen, H.A. ("Proposal for JPEG: Thumbnail-based image access/retrieval," SPIE Vol. 2952, 1996, pp. 676-682) – proposes adding thumbnail support to JPEG

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (571) 272-7451. The examiner can normally be reached on 7:30 - 4:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



04/22/07

Yubin Hung
Patent Examiner
Art Unit 2624
April 24, 2007